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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,388	07/18/2002	Wolfgang Drobny	10191/2363	2413
26646	7590	09/26/2006	EXAMINER	
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			LUGO, DAVID B	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/089,388

Applicant(s)

DROBNY ET AL.

Examiner

David B. Lugo

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/29/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION***Drawings***

1. The drawings are objected to because the unlabeled rectangular boxes shown in the drawings should be provided with descriptive text labels. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 17-21 are objected to because of the following informalities:

In the preamble of claims 17-21, it is suggested that "device" be changed to --system-- since it does not appear that a single device, distinct from the recited "at least two communication devices", includes the components recited in the claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace et al. U.S. Patent 6,104,308 in view of Rappaport, *Wireless Communications*.

Regarding claim 12, Wallace discloses a method for bidirectional data transmission between at least two devices comprising transmitting data on a single communication path 20 in one communication direction from a restraint device 16 to the central controller 14 via a change in current flow (col. 4, lines 53-56), transmitting data simultaneously on the communication path 20 in an opposite direction via a change in voltage (col. 4, lines 18-22), and providing the signal communication path by maintaining a single power supply for both communication directions (col. 2, lines 43-50), where a steady minimum voltage level V_L is the normal operating voltage for powering the restraint devices 16 (col. 3, lines 56-57). Wallace does not disclose that the data generated via a change in current flow uses data pulses with an inverted pulse half and a non-inverted pulse half, where the data is encoded with a pulse-edge change between the pulse halves using Manchester coding.

Rappaport discloses the use of Manchester coding, as shown Fig. 5.14(c), where two opposite pulse halves are used to represent each binary symbol, the data being encoded during the pulse-edge change, as described on page 225, second paragraph under section 5.4.3 – Line Coding. It would have been obvious to one of ordinary skill in the art to use Manchester coding

Art Unit: 2611

as described by Rappaport to code the current modulated data in the system of Wallace because it provides easy clock recovery since transitions are guaranteed in every bit period, as stated by Rappaport.

Regarding claim 13, in one interpretation Wallace shows in Figure 2, a high voltage level V_H , an intermediate voltage level V_L , and a low voltage level 0, where the change in voltage is represented by changing the voltage between the high and intermediate levels (V_H and V_L).

Regarding claim 14, the minimum level of the data transmission is level V_L to provide the required operating voltage for the restraint devices (col. 3, lines 56-57).

Regarding claim 15, in one interpretation Wallace shows in Figure 2, a high voltage level V_H , a low voltage level V_L , where the change in voltage is represented by changing the voltage between the high and low voltage levels (V_H and V_L).

Regarding claim 16, Wallace does not disclose that the data generated via a change in voltage uses data pulses with an inverted pulse half and a non-inverted pulse half, where the data is encoded with a pulse-edge change between the pulse halves using a cyclic code.

Rappaport discloses the use of Manchester coding, as shown Fig. 5.14(c), where two opposite pulse halves are used to represent each binary symbol, the data being encoded during the pulse-edge change, as described on page 225, second paragraph under section 5.4.3 – Line Coding. It would have been obvious to one of ordinary skill in the art to use Manchester coding as described by Rappaport to code the voltage modulated data in the system of Wallace because it provides easy clock recovery since transitions are guaranteed in every bit period, as stated by Rappaport.

Regarding claim 17, Wallace discloses a system for bidirectional data transmission between at least two communication devices comprising a first arrangement 42 for transmitting data on a single communication path 20 in one communication direction from a restraint device 16 to the central controller 14 via a change in current flow (col. 4, lines 53-56), a second arrangement (portion of voltage modulator 30) for transmitting data simultaneously on the communication path 20 in an opposite direction via a change in voltage (col. 4, lines 18-22), a single power supply 24 for both communication directions (col. 2, lines 43-50), operable to provide a constant minimum voltage level V_L is the normal operating voltage for powering the restraint devices 16 (col. 3, lines 56-57). Wallace does not disclose a fourth arrangement for generating data via a change in current flow with an inverted pulse half and a non-inverted pulse half, and to code the data with a edge change between the pulse halves using Manchester coding.

Rappaport discloses the use of Manchester coding, as shown Fig. 5.14(c), where two opposite pulse halves are used to represent each binary symbol, the data being encoded during the pulse-edge change, as described on page 225, second paragraph under section 5.4.3 – Line Coding, where the encoder used to code the signals is considered a fourth arrangement. It would have been obvious to one of ordinary skill in the art to use Manchester coding as described by Rappaport to code the current modulated data in the system of Wallace because it provides easy clock recovery since transitions are guaranteed in every bit period, as stated by Rappaport.

Regarding claim 18, in one interpretation Wallace shows in Figure 2, a high voltage level V_H , and a low voltage level V_L , where the change in voltage is represented by changing the voltage between the high and low voltage levels (V_H and V_L), and the portion of the voltage modulator that provides the voltage level change is considered to be a third arrangement.

Art Unit: 2611

Wallace does not state that a separate power supply is used for each of the communication directions. However, it is well known in the art to provide separate power supplies for separate devices in a communications system. It would have been obvious to one of ordinary skill in the art to use separate power supplies as opposed to a single power supply as a matter of design consideration, as the communication functions of the devices will not be considerably altered when separate power supplies are used.

Regarding claim 19, in one interpretation Wallace shows in Figure 2, a high voltage level V_H , an intermediate voltage level V_L , and a low voltage level 0, where the change in voltage is represented by changing the voltage between the high and intermediate levels (V_H and V_L), and the portion of the voltage modulator that provides the voltage level change is considered to be a third arrangement.

Regarding claim 20, Wallace does not disclose a fifth arrangement for generating data via a change in voltage level with an inverted pulse half and a non-inverted pulse half, and to code the data with a edge change between the pulse halves using a cyclic code.

Rappaport discloses the use of Manchester coding, as shown Fig. 5.14(c), where two opposite pulse halves are used to represent each binary symbol, the data being encoded during the pulse-edge change, as described on page 225, second paragraph under section 5.4.3 – Line Coding. It would have been obvious to one of ordinary skill in the art to use Manchester coding as described by Rappaport to code the voltage modulated data in the system of Wallace because it provides easy clock recovery since transitions are guaranteed in every bit period, as stated by Rappaport.


Regarding claims 21 and 22, the code disclosed by Rappaport is a Manchester code.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David B. Lugo whose telephone number is 571-272-3043. The examiner can normally be reached on M-F; 9:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



David B. Lugo
Patent Examiner

9/21/06